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MARKET STRUCTURE AND GROWTH  
PROSPECTS OF THE CONDUIT-CMBS  
MARKET**

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# FORCES CHANGING REAL ESTATE FOR AT LEAST A LITTLE WHILE: MARKET STRUCTURE AND GROWTH PROSPECTS OF THE CONDUIT-CMBS MARKET\*

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## **I. Introduction**

The commercial mortgage-backed security (CMBS) is one of the great financial success stories of the 1990's. Combining features of two other very successful financial innovations—the residential MBS and the corporate junk bond—the CMBS has evolved rapidly in the face of changing market conditions. Early deals were backed by pools of seasoned and often financially distressed loans, as financial institutions sought to liquidate what were originally “buy-and-hold” asset portfolios. Then, beginning in the mid-1990's, the so-called *conduit-CMBS* market emerged. Rather than using CMBS as a dumping ground for unwanted assets, these deals are backed by pools of commercial mortgages that are originated with the intent of securitization.

This article analyzes the structure and economics of the conduit-CMBS market in order to assess its short- and long-run growth potential. Although conduit-CMBS issuance growth has generally been positive since the mid-1990's, fallout from the 1998 Russian financial crisis reminded participants of the fragility of this emerging product market. Among other players, Nomura Securities, a prominent conduit/security underwriting in the market, was a casualty of this crisis. So was Criimi Mae, the largest B-piece securities buyer in the market until that time. Without strong intervention by the Fed in bailing out Long-Term Capital Management, or if the crisis had worn on for months instead of only weeks, it is entirely possible that CMBS issuance would have ground to a complete halt. Instead, conditions “stabilized” in early 1999, with total 1999 issuance lagging only

somewhat behind record 1998 issuances.<sup>1</sup>

Continued growth in conduit-CMBS, if it is to continue, will largely come at the expense of traditional portfolio lending undertaken by banks and insurance companies. My approach in this article will be to compare and contrast the conduit-CMBS production process with traditional whole loan/portfolio investment in order to assess comparative efficiency. To organize the discussion, the major participants along the capital supply and demand chain will be identified and discussed. I will start with the borrower and then move to the conduit loan originator, the conduit/security underwriter, the rating agency and finally the security investor. Once market structure and economics are established, I will consider other relevant issues in the continued development of the conduit-CMBS market.

My major conclusions can be summarized as follows. In general, I am cautiously optimistic about continued growth in the conduit-CMBS market. This optimism is due to several factors, the most important of which are liquidity creation, efficiency gains through loan production specialization and the ability to tailor securities to meet investor demands. The most important negative is the separation of investor cash flow and control rights that result from securitization. This separation can introduce additional cost and information frictions as well as create a misalignment of interests between various market participants. An additional cost may be price volatility that accompanies public capital market intermediation. CMBS price volatility, which is difficult to hedge, introduces pipeline risk and creates instability in the forward commitment market.

## **II. Structure and Economics of the Conduit-CMBS Market**

In this section I analyze the structure and economics of the conduit-CMBS market. My approach will be to first identify all the major participants involved in this emerging market and how they interact with one another. I then analyze the economic role of each participant in detail.

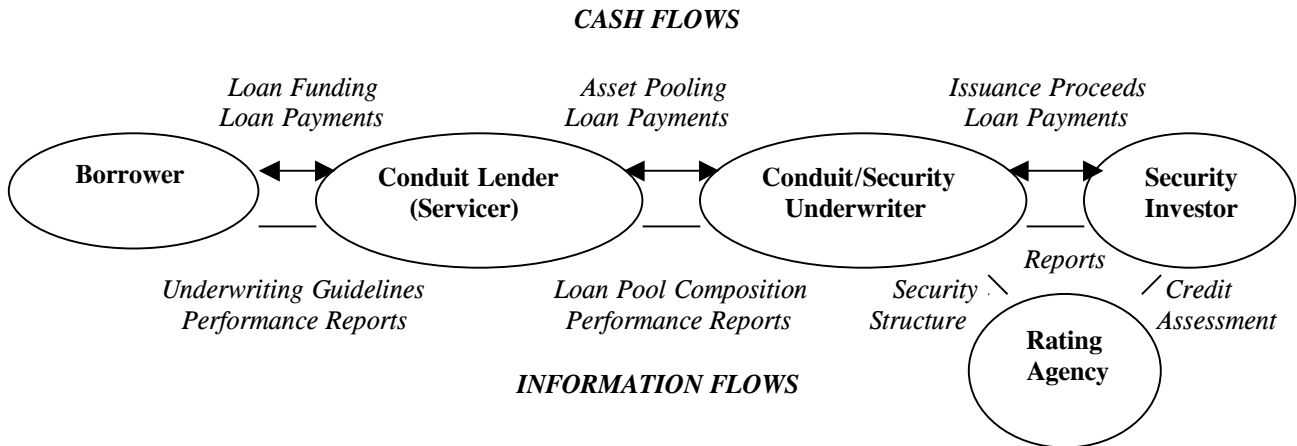
## **II.A. The Conduit-CMBS Securitization Process**

Figure 1 identifies the five key players in the conduit-CMBS securitization process, with the arrow lines indicating direct cash flow channels and the solid lines indicating information flows. Commercial real estate borrowers and security investors are endpoints in the debt cash flow chain. The conduit loan originator provides mortgage underwriting services and secures fees from origination. The conduit/security underwriter—who often directly coordinates a network of loan originators—pools the loans together and determines appropriate cash flow allocation rules for securities that are carved out of the loan pool. Income is earned by the conduit/security underwriter from the spread differential between the weighted average mortgage yield on pooled loans and the weighted average securities yield. Rating agencies earn fees for determining subordination levels needed to secure particular credit quality ratings and for monitoring post-issuance asset pool performance. These fees are paid by the conduit/security underwriter, since free-rider problems prevent fees from being directly passed onto investors. Significantly, rating agencies exert control over security design and monitoring, but do not take investment positions in the securities themselves.

Information flows between the various market participants are quite important, as they effect security valuation, security liquidity, and the evolution of security and mortgage contract design. With respect to a current issuance, security underwriters disclose asset pool and security structure characteristics through the red herring to security investors. Prior to final distribution of the prospectus and security issuance, the rating agencies analyze pool characteristics (e.g., weighted average loan-to-value ratio, property diversification) and security structure (e.g., cash flow allocation schemes, special servicing rules) in their determination of subordination levels and credit ratings. Investors then aggregate all available information to determine risk-adjusted CMBS prices.

**FIGURE 1**

**CASH FLOW AND INFORMATION FLOWS BETWEEN MARKET PARTICIPANTS**



There are several information-feedback loops that impact the conduit-CMBS market from an evolutionary standpoint. Ongoing information production by security servicers and rating agencies regarding asset pool performance affect secondary market security liquidity and price. In addition, investor and rating agency reaction to asset pool composition and security structure feed back to impact future pooling and structural design decisions. This type of feedback may also affect mortgage contract design, as conduit/security underwriters are constantly on the lookout for efficiency enhancing contractual and structural innovations.

**II.B. Benefits and Costs to Borrowers**

Borrowers are most sensitive to loan product differences at origination, where price is obviously an important decision variable. Current market conditions are such that traditional financial intermediaries (primarily insurance companies) are the low cost supplier of loans backed by higher quality assets and conduits are the low cost supplier of lower credit quality loans. Relative price fluctuates over time, however. Institutionally intermediated debt finance is prone to alternating

periods of oversupply (possibly due to regulatory effects or competitive herd instincts) followed by credit rationing or pricing that is designed to make up for past performance problems. Public market capital providers are less prone to boom and bust patterns of this type—there are more investment options and fewer principal-agent problems—and are more apt to price capital in a “memoryless” fashion.<sup>2</sup> However, public market capital prices can be volatile in the short-run. Price volatility may affect the conduit lender’s ability to forward-commit capital, thus creating investment planning problems for borrowers.

Differences exist in non-price factors as well. Higher relative loan amounts are often available in the conduit debt market. This suggests that more highly capital constrained borrowers will tend to migrate towards conduit lenders. At a given point in time with a given conduit lender, there tends to be less flexibility in mortgage contract design because securityholders prefer homogeneity with respect to contracting features. There are, however, contract differences *between* conduit lenders that provide choices for borrowers. Moreover, conduits appear more willing to experiment with innovative contract designs if they perceive that borrowers, security investors and rating agencies in combination make such innovation profitable.<sup>3</sup> Offsetting lower contract flexibility is the ability to close conduit loans quickly, sometimes in a matter of days instead of weeks.

There are differences after loan closing that may be of concern to borrowers. Conduit lenders typically “require” the borrower to generate ongoing loan collateral information for the benefit of rating agencies and investors. Data provision include items such as lease rollover dates and changes to net operating income, which are combined with standard loan payment and delinquency reporting. Although traditional lenders have also requested status reports from borrowers, they have not generally enforced reporting to the extent that conduits have.<sup>4</sup> Increased information availability may have external benefits for the borrower, since successful lending outcomes are known to many market participants instead of being known to only a limited number of debt sources. Furthermore, common knowledge of unsuccessful outcomes may have the (socially) beneficial effect of inducing

greater effort to avoid such realizations.

Another important difference is related to the future possibility of financial distress. In a bilateral borrower-lender relationship there often exists direct communication between parties and a shared willingness to efficiently resolve financial problems. This is especially true when a repeated business relationship is anticipated. Alternatively, when a loan is placed into a security, the borrower-lender relationship is typically impersonal and is subject to rules that may restrict the ability to arrive at a mutually agreeable outcome. For example, special servicing rules often restrict loan extension time periods and generally do not allow for cash infusions from securityholders.<sup>5,6</sup> Furthermore, the special servicer may view financial distress as an isolated occurrence instead of an ongoing business relationship, which may reduce the borrower's bargaining power when renegotiating the loan.

### **II.C. Benefits and Costs to Conduit Loan Originators**

To frame the discussion in this section, consider the following question: what are the factors that might convince a lender to originate for direct investment instead of originating for immediate sale, with the option of buying back some or all of the securities created from a pool of "similar risk" mortgages?<sup>7</sup> Through the origination process the lender acquires borrower and property specific information that is often costly to communicate to others. Proprietary information may be valuable to the originator when the loan is held in portfolio and lending occurs repeatedly with the same borrower. By selling the loan rather than retaining it, the originator underutilizes valuable information and may liquidate at a price that is less than the internal buy-and-hold value.<sup>8</sup> Liquidation also demonstrates an unwillingness or inability to commit to a particular course of action—in essence, a preference for holding non-specific/commoditized assets instead of specific/relationship intensive assets—which may be detrimental to ongoing borrower and financing

relations.

Offsetting these liquidation costs are three major benefits to selling the loan to outsiders and then buying back securities. The first advantage is liquidity creation. By pooling loans together the sales discount due to asymmetric asset value information becomes small, since information risk is idiosyncratic and hence diversifiable.<sup>9</sup> This suggests that loan pool diversification can efficiently substitute for costly information acquisition. In lieu of full information diversification, other mechanisms such as credit quality certification by a rating agency or product brand name recognition/reputation can be effective. Holding the debt in registered securities form may also result in greater post-origination liquidity than that associated with holding the loan whole. This liquidity may be quite valuable for asset-liability matching purposes, regulatory capital reserve management or for other business reasons.

A second, related, benefit comes from the ability to repurchase securities whose risk-return characteristics are tailored to fit investor needs. Risk sharing can be achieved by selling loans whose returns are highly correlated with an existing asset base, and then buying back securities carved out from a broadly diversified asset pool. Tailoring benefits may derive from other sources as well. For example, consider creation of a simple senior-subordinated security. Due to its informational advantage or a preference for higher risk investment, the originator may desire to own the subordinated security. In this case the value of specific information acquired through the loan screening process can be retained. Retention may also increase the value of the senior security due to quality signaling effects.<sup>10</sup> Alternatively, for capital reserve purposes or if well informed outside investors exist, the originator may prefer retaining the senior security. Post-issuance liquidity of the senior security may be enhanced in this case, since information-related control concerns are abrogated due to the shifting of restructuring decision rights to the subordinated securityholder.

A third benefit is specialization. Traditional commercial real estate lending requires substantial investment in loan origination services, loan servicing and monitoring, and capacity for

loan restructuring or asset liquidation given borrower default. The conduit process unbundles these functions to allow the conduit loan originator to specialize in screening/underwriting services only. The separation of the restructuring and asset liquidation function may be particularly efficient, since investment in restructuring capacity is initially expensive, there are often long lag times required to build in-house expertise and because scale benefits may be realized through specialization to result in higher default loss recoveries.

If the conduit lender has capacity for loan investment, possession of superior borrower and collateral property information may lead to adverse selection concerns. That is, the lender may have an incentive to sell the lower quality loans to the conduit and keep the higher quality loans for itself. Although a serious issue, this incentive problem is well understood and is addressed in several ways. First, loan origination guidelines (“bright line” tests) are specified with the intent of preventing adverse selection from occurring.<sup>11</sup> In addition, monitoring by conduits and (most importantly) rating agencies with respect to adherence to underwriting criteria and *ex post* loan performance provides an important check on the loan production process. Third, conduit originators may have the opportunity to invest in subordinated securities. This functions as a commitment mechanism and thus generates an important quality signal for outside investors.<sup>12</sup> Finally, repeated business dealings introduce reputation value into the originator’s profit equation, thus creating incentives to behave in a responsible manner over time.

Loan price stability is also an issue for the conduit lender. Traditional funding sources (bank and insurance company liabilities) are less prone to short-term price swings than securitized funding sources. Establishing a reputation for follow-through and short-term price stability may be an important component to building long-term lending relationships and increasing revenues over time. Follow-through, stability and commitment become even more valuable during times of economic recession, market volatility and illiquidity. Ironically, when the “goin’ got tough” in the early 1990’s, it was a withdrawal by tradition capital providers that created the opportunity for Wall Street

to enter to service the needs of commercial real estate owners. This suggests an ongoing tension between continuous availability of capital that is subject to short-term price volatility (which the conduits provide) and sporadic capital availability that is relatively price-stable when the capital tap is on (which traditional financial intermediaries provide).

#### **II.D. The Role of the Conduit/Security Underwriter**

The basic role of the conduit/security underwriter is to organize the capital delivery process as efficiently as possible and to allocate cash flows to investors such that the sum of individual security values is maximized. As discussed in the previous sub-section, there are strong reasons to believe that specialization in loan screening, servicing and restructuring enhance efficiency. It is important, however, that high quality systems are established to help ensure a seamless flow of information to all relevant market participants. This is occurring, as investors can now obtain up-to-date loan status information from servicers and special servicers via the internet and other real-time information delivery systems.<sup>13</sup>

Security structuring requires specifying rules for allocating cash flows to the various securities. In attempting to maximize value there may be an incentive to create a large number of securities in order to better match risk-return characteristics with specific investor preferences. The costs associated with increasing the number of securities include smaller security sizes that may decrease liquidity and increased security complexity resulting from intricate cash flow allocation schemes. A related issue is that payoff patterns to various securities are interdependent. As the number of securities increase, interdependence makes it more difficult to analyze any particular security.

Security design is also sensitive to anticipated rating agency effects. Indeed, CMBS structuring teams spend considerable time trying to identify rating agency determinants of security

subordination levels. A process of “structural arbitrage” can be accomplished by modifying asset pool composition and security structure to satisfy the risk criteria that rating agencies deem important, while at the same time attempting to provide securityholders features they desire but that are less important to rating agencies. It is also relevant for the conduit/security underwriter to identify mortgage contracting features that are differentially valued by borrowers, rating agencies and securityholders. Analogous to the benefits ascribed to specialization, this process of sorting, matching and arbitraging risk preferences among the various market participants is value enhancing and appears to partially overcome additional intermediation costs associated with securitizing loan pools.

Warehousing costs are relevant to conduits, who must accumulate a sufficiently large inventory of loans prior to security issuance. Unexpected declines in security prices can create substantial warehousing losses if inventory risks are unhedged, as exemplified by the 1998 Russian financial crisis. This painful experience is partially responsible for a widening in security yield spreads in the post-crisis conduit market. It is also the reason why security pools have recently decreased in size, where the tradeoff is between liquidity, cost and information scale benefits associated with larger securitizations versus minimizing unhedgable pipeline risk through smaller, more frequent issuances.

## **II.E. The Role of the Rating Agency**

Rating agencies are a critical link in the conduit production process. They acquire detailed information from security underwriters, use this information to effect security structure when rating individual securities, and then disseminate rating and related information to investors. Given their central role, it is important that rating agencies are effective at obtaining full disclosure from conduits regarding relevant asset pool characteristics. If rating agencies fail in their role, the conduit

market will be restricted in its ability to compete with traditional portfolio lenders.

Conduit originators, who also have the capability of investing directly in whole loans, may have an incentive to select against securityholders. As discussed earlier, conduits recognize this potential conflict and typically require originators to establish a “bright line” between conduit and portfolio lending in addition to implementing other quality assurance mechanisms. It is not clear, however, how well the conduits monitor the loan originators—especially since many conduits *are* the loan originator. Consequently, the rating agencies are ultimately responsible for enforcing guidelines and establishing published rankings of screening quality. If monitoring gaps remain, investors will recognize (and likely experience) adverse selection and demand extra compensation through the security yield.<sup>14</sup>

Besides providing a credit rating at security issuance, rating agencies are also responsible for monitoring the post-issuance credit quality of securities. In a relatively illiquid securities market without a traded collateral value benchmark, the post-issuance monitoring role is more important than it might otherwise be. For example, corporate bond prices are known to adjust quickly to the arrival of new information, since bondholders can benchmark to an actively traded stock price. Timely reassessment of corporate credit quality by the rating agencies is therefore not crucial. Alternatively, accurate and timely updating of credit information is more important in the relatively information-starved CMBS market, as it will improve security pricing and liquidity. Rating agencies address this issue by pre-committing to monitor deals after issuance for an annual fee of approximately \$10,000. Whether this fee and contractual arrangement provide sufficient incentives for a thorough as well as timely review of ongoing conduit operations and pool credit quality is currently an open question.

As a result of competition over credit rating fees, there is concern that ratings agencies may have become too aggressive in their determination of subordination level. This is a legitimate concern, since initial rating fees for CMBS generally range from \$500,000-\$1,000,000 per deal and

all four major rating agencies are active in this market (no rating agency dominates).<sup>15</sup> Are the rating agencies trading off long-term reputation for short-term profit? Thus far, I do not think so. AAA-rated subordination levels have indeed been dropping (from the mid-30 percent range on average in the mid-1990's to the mid- to high 20 percent range today), but declines have coincided with a robust commercial real estate market. There is also evidence to suggest that rating agencies were initially conservative in setting subordination levels due to unfamiliarity with this new product, implying that declines in credit support levels may be the result of experience and learning as opposed to over-aggressiveness.

In summary, it is clear that the rating agencies have been instrumental in the development of the CMBS market through their enforcement of disclosure and communication standards as well as through their influence on product design. For the conduit-CMBS market to continue to develop, it is crucial that the rating agencies maintain competent teams of analysts and that they remain focused on long-term security performance and their reputation as credit quality certification specialists.<sup>16</sup>

## **II.F. Benefits and Costs to Security Investors**

A well recognized benefit to securitization is that, by splitting composite cash flows into smaller pieces, one can better match risk-return preferences of investors to the various securities. With same-rated securities, preference matching can also be achieved by varying expected security maturity. A further refinement on the ability to maturity match is the development of a fixed-for-variable rate swap market for higher credit quality CMBS.<sup>17</sup>

There are at least two other reasons why cash flow splitting may create value through investor preference matching. First, because detailed risk analysis is required for investment in lower-rated CMBS, investors with greater knowledge of real estate markets and structured finance may be better matches for these securities. Conversely, uninformed investors are generally better

matched with lower risk securities. Second, informed investors may differ in their preference or capacity for directly addressing loan restructuring/liquidation situations. Informed investors who also have restructuring/liquidation capacity may prefer bundling junior security investment with the special servicing function to achieve greater control and efficiency. Alternatively, when certain informed investors do not have restructuring capacity and bundling occurs with junior security investment, mezzanine security investment may be preferred. Investment thus splits into three clienteles: uninformed senior security investors, informed mezzanine security investors who do not possess loan restructuring/liquidation capacity, and informed junior security investors who possess restructuring/liquidation capacity.<sup>18</sup>

On the cost side, cash flow splitting and allocation of loan renegotiation decision rights to junior securityholders creates a potential conflict of interest. When borrower default occurs, junior securityholders may prefer to extend the loan term. This is because loan extension creates significant upside potential for the subordinated investor, with little downside risk.<sup>19</sup> Conversely, senior securityholders will generally prefer foreclosure to loan extension, since their downside risk is increased through loan extension with no compensating upside benefit. Extension also increases security duration, which can be especially costly to securityholders in a steeply upward sloping term structure environment.

When junior securityholders control loan renegotiation/liquidation decisions, senior securityholders will anticipate this potential conflict and price it into the security yield. To manage this effect, rules are often put in place at the time of security issuance that limit the discretion of low-rated securityholders in addressing financial distress situations.<sup>20</sup> Restrictions on the extension time period and immediate loss recognition through appraisal reduction are examples of limitations placed on the special servicer. Any efficiency gain associated with these limitations is unproven in this developing market, whereas there are obvious costs associated with limiting discretion when attempting to restructure distressed loans.<sup>21</sup>

A final aspect to securitization is improved information accessibility and liquidity. Information sharing encourages further investment in sophisticated performance monitoring systems and facilitates analysis of historical investment performance. Indeed, advances in information technology are very much behind the recent explosion in securitization. Higher quality and lower cost information can be expected to result in greater liquidity and higher secondary market security prices. This feeds back to increase security issuance prices and ultimately lowers borrower debt costs to result in a more competitive conduit-CMBS market.<sup>22</sup>

## **II.G. Summary**

Table I summarizes the numerous tradeoffs analyzed in this section. Although there are certainly a number of negatives associated with the use of conduit loan programs, several positives provide compelling reasons to believe that market growth is sustainable. Specialization resulting in efficient loan and security production, provision of asset liquidity and information, and cash flow splitting that results in superior matching of security characteristics to investor knowledge and preferences are particularly relevant. Most problematic in my view is the unbundling of investor cash flow and control rights through securitization. This introduces potential adverse selection and moral hazard problems that must be monitored and controlled. Other wild cards are price instability of public market capital intermediation and special servicing rules that restrict flexibility in addressing borrower default.

## **III. Concluding Remarks**

This article has considered efficiency tradeoffs associated with development of the conduit-CMBS market. On balance there are several factors that favor its continued growth, including liquidity provision, cost reduction through loan production specialization and value creation achieved

through cash flow splitting. In the short- to medium term, I expect conduits to continue to dominate non-institutional grade commercial mortgage issuance. If market conditions become even more favorable for securitization, look for the conduits to begin to compete aggressively for institutional grade product as well.

**TABLE I**  
**BENEFITS AND COSTS ASSOCIATED WITH**  
**COMMERCIAL LOAN SECURITIZATION**

Market Participant	Benefits Associated With Securitization	Costs Associated With Securitization
Borrower	<ul style="list-style-type: none"> <li>• Competitive Prices</li> <li>• Accurate loan pricing</li> <li>• Continuous availability of capital</li> <li>• Quick loan processing</li> <li>• Borrower information available</li> </ul>	<ul style="list-style-type: none"> <li>• Less flexible contracting</li> <li>• No relationship lending</li> <li>• Price instability</li> <li>• Lost bargaining power in financial distress</li> </ul>
Conduit Lender	<ul style="list-style-type: none"> <li>• Increased liquidity</li> <li>• Risk sharing and diversification</li> <li>• Better matching of risk-return preferences</li> <li>• Specialized loan production</li> </ul>	<ul style="list-style-type: none"> <li>• Lost information rents</li> <li>• Misalignment of cash flow and control rights</li> <li>• Potential for adverse selection</li> <li>• Loan commitment problems</li> </ul>
Conduit/Security Underwriter	<ul style="list-style-type: none"> <li>• Efficient loan and security production</li> <li>• Enhanced information systems</li> <li>• Optimal security design and structural arbitrage</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for adverse selection</li> <li>• Information disclosure incentive problems</li> <li>• Monitoring the conduit originator</li> <li>• Loan warehousing risk</li> </ul>
Rating Agency	<ul style="list-style-type: none"> <li>• Efficient information brokerage and credit quality certification</li> <li>• Appropriate long-run incentives to police conduit issuance process</li> <li>• Encourage product standardization</li> </ul>	<ul style="list-style-type: none"> <li>• Imperfect market regulators</li> <li>• Possible lags in post-issuance security assessments</li> <li>• Competition among rating agencies and fee structure</li> </ul>
Security Investor	<ul style="list-style-type: none"> <li>• Matching risk-return preferences through cash flow splitting</li> <li>• Matching asset knowledge base and capacity for loan renegotiation through cash flow splitting</li> <li>• Information accessibility and security liquidity</li> </ul>	<ul style="list-style-type: none"> <li>• Complex securities difficult to evaluate</li> <li>• Misalignment of cash flow rights and back-end (financial distress) control rights</li> <li>• Rules limiting discretion in financial distress situations</li> </ul>

Sustained growth opportunities suggest that competition will intensify between conduits. Consequences of conduit market growth and increased competition are several. One is that firms will continue look for ways to increase demand for securities. This suggests that innovations in

security structure and design will continue. There will be pressure to increase the number of securities carved out of any given asset pool and to design these securities in creative ways to meet perceived investor demand. Although increased security complexity is a natural result of learning and market maturation, there are limits to how fine cash flow splitting can go before it increases the opacity of securities and reduces liquidity.

A second implication of increased competitiveness is that suppliers will continue to seek ways to increase loan and security production efficiency. This suggests that consolidation will occur over time to realize scale benefits. Will monopolistic tendencies result in an industry of one or two dominant players as it has in the residential mortgage market? I don't think so. The duopolistic structure that has emerged in the residential market is largely due lock-in effects and continued federal government subsidy of Fannie Mae and Freddie Mac. There is no similar public policy motive for subsidizing commercial real estate lending. Scale benefits are also limited by borrower demand for customized loan contracts, and the fact that loan underwriting and restructuring decisions require local market knowledge. Finally, the disciplinary/regulatory role of the rating agency substitutes for similar effects gained from industry concentration in the residential market. This is an important element to CMBS market structure, one which reduces fixed costs to participation and encourages entry.

Securitization of commercial mortgages and certain other assets was initially triggered by negative economic and financial liquidity shocks. For traditional financial intermediaries, large-scale loan performance problems and illiquidity necessitated a transition from exchange relations that were primarily bilateral/specific and for which opacity had strategic value to ones that are multilateral/non-specific and for which transparency is advantageous. The development of intermediaries and technology to facilitate such change is occurring rapidly. This suggests that traditional financial intermediaries will evolve from institutions who transform liabilities into illiquid investments towards more service-based firms that specialize in screening, monitoring and related

functions.

Hence the paradox of liquidity. Liquidity implies commoditization, non-specific investment, exit and even anarchy, whereas illiquidity suggests heterogeneity, specific relationships, voice and stability. Liquidity and easy exit are costly to institutions that have traditionally marketed commitment to their customers and financiers. Interestingly, the process of securitization creates and then aggregates asset-level liquidity into highly specific and illiquid mini-financial intermediaries, which are subsequently carved up and issued as tradable securities. This transformation process of illiquidity to liquidity, and back again, illustrates the continued tension between markets and institutions, one which John Maynard Keynes found perplexing: “Of the maxims of orthodox finance, none, surely, is more anti-social than the fetish of liquidity, the doctrine that it is a positive virtue on the part of investment institutions to concentrate their resources on the holding of ‘liquid’ securities.”

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## Endnotes

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<sup>1</sup> Total 1999 CMBS issuance was about \$65 billion, as compared to \$78 billion in 1998. Stabilized is a relative term. 1999 had its share of ups and downs, as general bond market volatility, Y2K fears and structural vacuums created by the exit of firms like Nomura and Criimi Mae resulted in a number of mini-crises.

<sup>2</sup> Principal-agent problems in this context are primarily herd instincts related to performance benchmarking and regulatory distortions that accompany thickly intermediated finance. These problems, which are typically less prominent in public capital markets, exacerbate and sometimes even cause cyclicity in the real sector.

<sup>3</sup> Examples of experimentation include Criimi Mae's fully prepayable loan program and the extensive use of cross-default provisions by Nomura.

<sup>4</sup> Enforcement is used in a relative sense. Borrower generated information is currently of lower quality than preferred by conduit securityholders. The problems seem to be that borrowers lack immediate incentives to provide accurate and timely information, and that conduits have yet to figure out an effective enforcement mechanism.

<sup>5</sup> Special servicing rules are constantly evolving, as security issuers and rating agencies grapple with rules-versus-discretion tradeoffs in dealing with financially distressed borrowers. This aspect to securitization is important and often overlooked, and will be addressed in more detail later in the article.

<sup>6</sup> "Forced" liquidations may be especially costly if there is an industry-wide downturn in the commercial real estate sector. Experienced investors may be sidelined, resulting in the need to "fire sale" price to attract outside investors.

<sup>7</sup> One can think of this as something akin to a "make or buy" decision. Direct investment (make) requires investment in a vertically integrated production process, whereas securitization (buy) delegates production to outside intermediaries, with the firm simply buying back the end product. In our case, though, there may be differences in the design of the product depending on whether it is made or bought.

<sup>8</sup> In other words, the originating lender has better information regarding loan quality than outsiders do. This leads to concerns about selling only the lemons, an incentive outsiders factor into the sale price.

<sup>9</sup> As noted earlier, loan specific information asymmetries lead to discounts in the external asset value. This effect is analogous to the pricing of idiosyncratic risk when holding an undiversified portfolio of assets. Diversification ameliorates the need to price idiosyncratic risk, whether it be standard uncertainty in *future* asset value or information-related uncertainty in *current* asset value.

<sup>10</sup> That is, information-poor outsiders will look for credible actions that help certify product quality, and pay more for the product as a result. A standard method for achieving such an effect is for insiders to put their own capital at risk through co-investment.

<sup>11</sup> "Bright lines" are rules that limit or eliminate discretion in retaining versus selling assets. An example of a bright-line is a rule that requires sale of all loans collateralized by particular property types or sale of all loans within a particular loan-to-value ratio range.

<sup>12</sup> J.P. Morgan has purposefully used this incentive signaling approach. Co-investment of this type is not widespread, however, probably because conduit originators are often constrained in their ability to invest in securities.

<sup>13</sup> Charter-Conquest and Trepp are two prominent information service providers who broadcast loan servicing and other relevant information via the internet.

<sup>14</sup> A recent event involving a large conduit/security underwriter illustrates the problem. This conduit originated "conforming" loan-to-value first mortgages at above-market contract rates of interest. Then the conduit returned the premium loan increment to the borrower without disclosing the action. This resulted in loans with high effective loan-to-value ratios relative to the stated book LTV's, which increased the credit risk of the pool. This disclosure problem was discovered by rating agencies only just prior to security issuance.

<sup>15</sup> The four rating agencies are Duff & Phelps, Fitch, Moody's and Standard & Poor's. Issuance participation rates for these firms in 1999 were approximately 27 percent, 50 percent, 75 percent and 63 percent, respectively. Cumulative participation rates exceed 100 percent because it is typical to use two rating agencies per CMBS deal.

<sup>16</sup> This and other comments raise the issue of who monitors the monitor. Importantly, investors in the higher risk securities have both the information and incentives to provide feedback on rating agency performance. Fierce competition among conduit/security underwriters can also be effective in improving monitoring. Indeed, it was a competitor who first tipped off a rating agency as to the premium loan disclosure problem discussed previously.

<sup>17</sup> Although exact numbers are unavailable, a robust fixed-for-variable rate swap market apparently exists for high-rated CMBS. The variable portion of the swap is typically tied to 3-month LIBOR rates. Interestingly, yield spreads on high-rated CMBS tend to be highly correlated with swap spreads, where the swap spread is the difference between the fixed-for-variable swap rate and the short-term Treasury bond rate. Given cash flow timing risks associated with high-rated CMBS investment and the existence of other "non-standard" risks, it is a bit of a puzzle as to why this high correlation

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exists and persists. Perhaps high-rated CMBS investors are concerned about systemic payment default effects, which are thought to be a central component in the swap spread.

<sup>18</sup> Differences in security liquidity may also explain why special servicing is generally controlled by the most subordinate investors. Illiquidity of the subordinate securities ensures loyalty, in the sense that it commits investors for the long-term. Alternatively, relative liquidity provides an exit option for more senior securityholders that diminishes their long-term commitment. Consequently, it makes sense that voice (in the form of control over workout-foreclosure decisions) resides with securityholders who hold the illiquid, highly specific subordinate securities.

<sup>19</sup> In other words, “when you ain’t got nothin’, you ain’t got nothin’ to lose.”

<sup>20</sup> Interestingly, security pricing can be used to partially align interests between high- and low-rated securityholders. By pricing senior securities at a slight premium to par and junior securities at a discount to par, senior securityholders will generally be averse to early return of principal (i.e., they will tend to prefer loan extension), whereas junior securityholders value early repayment more highly (given that their principal position remains in-the-money after loan termination).

<sup>21</sup> Brian Ciochetti and I have research in progress that suggests that lenders excessively liquidated financial distressed commercial mortgages in the late 1980’s and early 1990’s to address their own liquidity needs. This implies that the relative costs of special servicing rules and securitization-induced conflicts may not be as high as one might otherwise expect.

<sup>22</sup> Continued developments in information technology have significant implications for loan market structure. For example, mortgage brokerage will be affected by the internet. Matchmaking is efficiently accomplished via the internet, whereas other brokerage service functions will continue to be labor intensive. This suggests that generic (i.e., conduit) loans with low service intensity will be intermediated via the internet, whereas customized and high-service intensity debt will require more traditional brokerage. This split has interesting implications for intermediation as it relates to loan quality. In the short term, traditional brokers will work hard to isolate their higher quality borrowers from the effects of disintermediation, whereas low quality borrowers will immediately gravitate towards the internet. However, the fact that higher quality borrowers require lower service needs suggests that the internet will eventually erode barriers created by brokers. This will result in fewer brokers working more efficiently with a larger number of lower as well as higher quality borrowers.